

Abstract

The present disclosure provides a non-oriented electrical steel with excellent comprehensive performance comprising, in addition to Fe and inevitable impurities, the following chemical elements in percentage by mass: $C \leq 0.0050\%$, Si: 3.10-4.50%, Al: 0.10%-2.00%, Mn: 0.10%-2.50%, and $3.75\% \leq Si + Al \leq 5.22\%$. Correspondingly, the present disclosure also discloses a method for manufacturing the non-oriented electrical steel. The non-oriented electrical steel has small magnetic anisotropy, high magnetic induction intensity, low iron loss at medium and high frequency, high yield strength, and can be widely used in iron core materials of electric vehicle drive motors, high-speed motors, and unmanned aerial vehicles, etc.